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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): HANLEY et al.

Serial No.: 10/620,669

Filed: 7/16/2003

Title: Inhibition of Peptide Cleavage in Plants

Attorney Docket No.: LSBC-HANLEY-0195

Examiner:

Group Art Unit:

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P.O. Box 1450

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INFORMATION DISCLOSURE STATEMENT

Dear Sir:

This Information Disclosure Statement is submitted under 37 CFR 1.97(b) (before mailing date of first office action on the merits).

Applicant(s) submit herewith Form PTO 1449-Information Disclosure Citation together with copies, of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

The relevance of the attached references is that this is the closest art of which Applicant is aware. Applicant submits that the above references taken alone or in combination neither anticipate nor render obvious the present invention. Consideration of the foregoing in relation to this application is respectfully requested.

It is requested that the information disclosed herein be made of record in this application.

Respectfully submitted,

LARGE SCALE BIOLOGY CORPORATION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Date: 1 August 2004

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	10/620,669
				Filing Date	7/16/2003
				First Named Inventor	HANLEY
				Art Unit	
Sheet	1	of	4	Examiner Name	
				Attorney Docket Number	LSBC-HANLEY-0195

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
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		Altschul, et al., "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs" (1997) <i>Nucl. Acids Res.</i> , 25(17):3389-402	
		Barr, "Mammalian subtilisins: the long-sought dibasic processing endoproteases" (1991) <i>Cell</i> , 66(1):1-3	
		Barrett and Kirschke, "Cathepsin B, Cathepsin H, and cathepsin L." (1981) <i>Methods Enzymol.</i> , 80(Pt C):535-61	
		Batchelor, et al., "The seed coat-specific expression of a subtilisin-like gene, SCS1, from soybean" (2000) <i>Planta</i> , 211(4):484-92	
		Berger and Altmann, "A subtilisin-like serine protease involved in the regulation of stomatal density and distribution in <i>Arabidopsis thaliana</i> " (2000) <i>Genes & Development</i> , 14(9):1119-1131	

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		Del Mar, et al., "Substrate specificity of human pancreatic elastase 2" (1980) <i>Biochem.</i> , 19(3):468-72	
		Del Mar, et al., "A sensitive new substrate for chymotrypsin" (1979) <i>Anal. Biochem.</i> , 99(2):316-20	
		Erlanger, Kokowsky, and Cohen, "The preparation and properties of two new chromogenic substrates of trypsin" (1961) <i>Arch. Biochem. Biophys.</i> , 95:271-278	
		Gensberg, Jan, and Matthews, "Subtilisin-related serine proteases in the mammalian constitutive secretory pathway" (1998) <i>Semin. Cell Dev. Biol.</i> , 9(1):11-7	
		Jorda, et al., "A genomic cluster containing four differentially regulated subtilisin-like processing protease genes is in tomato plants" (1999) <i>J. Biol. Chem.</i> , 274(4):2360-5	
		Jorda, Conejero, and Vera, "Characterization of P69E and P69F, two differentially regulated genes encoding new members of the subtilisin-like proteinase family from tomato plants" (2000) <i>Plant Physiology</i> , 122(1):67-73	
		Kaneda, Yonezawa, and Uchikoba, "Improved isolation, stability and substrate specificity of cucumisin, a plant serine endopeptidase" (1995) <i>Biotech. Appl. Biochem.</i> , 22(Pt 2):215-22	
		Kumagai, et al., "Cytoplasmic inhibition of carotenoid biosynthesis with virus-derived RNA" (1995) <i>Proc. Natl. Acad. Sci. USA</i> , 92(5):1679-1683	
		Largman, et al., "Inhibition of human pancreatic elastase 2 by peptide chloromethyl ketones" (1980) <i>Biochim. Biophys. Acta</i> , 614(1):113-20	
		Meichtry, Amrhein, and Schaller, "Characterization of the subtilase gene family in tomato (<i>Lycopersicon esculentum</i> Mill.)" (1999) <i>Plant Mol. Biol.</i> , 39(4):749-60	

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		Nakajima, et al., "Mapping the extended substrate binding site of cathepsin G and human leukocyte elastase. Studies with peptide substrates related to the alpha 1-protease inhibitor reactive site" (1979) <i>J. Biol. Chem.</i> , 254(10):4027-32	
		Neurath, "Evolution of proteolytic enzymes" (1984) <i>Science</i> , 224(4647):350-7	
		Plunkett, et al., "Proteinase inhibitors I and II from leaves of wounded tomato plants: purification and properties" (1982) <i>Arch. Biochem. Biophys.</i> , 213(2):463-72	
		Ratcliff, Martin-Hernandez, and Baulcombe, "Tobacco rattle virus as a vector for analysis of gene function by silencing" (2001) <i>Plant J.</i> , 25(2):237-245	
		Ribeiro, et al., "A nodule-specific gene encoding a subtilisin-like protease is expressed in early stages of actinorhizal nodule development" (1995) <i>Plant Cell</i> , 7(6):785-94	
		Rudenskaya, et al., "Taraxalisin -- a serine proteinase from dandelion <i>Taraxacum officinale</i> Webb s.l." (1998) <i>FEBS Lett.</i> , 437(3):237-40	
		Rudenskaya, et al., "Macluralisin--a serine proteinase from fruits of <i>Maclura pomifera</i> (Raf.) Schneid." (1995) <i>Planta</i> , 196(1):174-9	
		Siezen and Leunissen, "Subtilases: the superfamily of subtilisin-like serine proteases" (1997) <i>Protein Sci.</i> , 6(3):501-23	
		Steiner, et al., "The new enzymology of precursor processing endoproteases" (1992) <i>J. Biol. Chem.</i> , 267(33):23435-8	
		Tanaka, et al., "A subtilisin-like serine protease is required for epidermal surface formation in Arabidopsis embryos and juvenile plants" (2001) <i>Development</i> , 128(23):4681-4689	
		Taylor, et al., "Maturation and secretion of a serine proteinase is associated with events of late microsporogenesis" (1997) <i>Plant J.</i> , 12(6):1261-71	

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		Tornero, Conejero, and Vera, "Primary structure and expression of a pathogen-induced protease (PR- P69) in tomato plants: Similarity of functional domains to subtilisin- like endoproteases" (1996) <i>Proc. Natl. Acad. Sci. USA</i> , 93(13):6332-7	
		Tornero, Conejero, and Vera, "Identification of a new pathogen-induced member of the subtilisin-like processing protease family from plants" (1997) <i>J. Biol. Chem.</i> , 272(22):14412-9	
		Twining, "Fluorescein isothiocyanate-labeled casein assay for proteolytic enzymes" (1984) <i>Anal. Biochem.</i> , 143(1):30-4	
		Uchikoba, Yonezawa, and Kaneda, "Cleavage specificity of cucumisin, a plant serine protease" (1995) <i>J. Biochem. (Tokyo)</i> , 117(5):1126-30	
		Umezawa, "Structures and activities of protease inhibitors of microbial origin" (1976) <i>Methods Enzymol.</i> , 45:678-95	
		Yamagata, et al., "Cucumisin, a serine protease from melon fruits, shares structural homology with subtilisin and is generated from a large precursor" (1994) <i>J. Biol. Chem.</i> , 269(52):32725-31	
		Yamagata, et al., "Molecular cloning and characterization of a cDNA and a gene for subtilisin-like serine proteases from rice (<i>Oryza sativa</i> L.) and <i>Arabidopsis thaliana</i> " (2000) <i>Biosci. Biotech. and Biochem.</i> , 64(9):1947-1957	

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